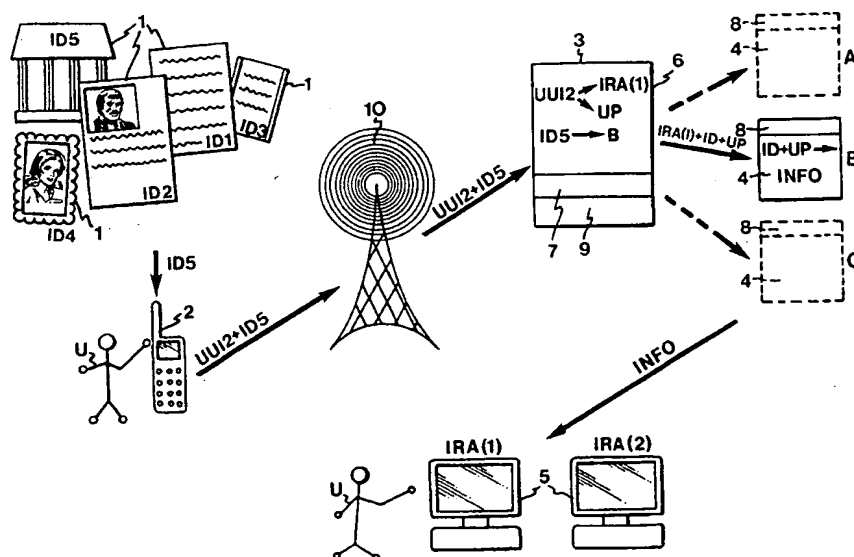




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(54) Title: A MESSAGE INFORMATION SYSTEM



## (57) Abstract

A message information system comprises a plurality of objects (1), each one of which is associated with an identifier; database means (4), which store object information relating to said objects; a plurality of user devices (2), each one of which comprises receiver means, which are adapted to receive the identifier of an object, and sending means which are adapted to send a request message to a predetermined address including the identifier and an indication of an selected information receiving address; a receiver (3), which is adapted to receive the request messages from the user devices (2); and processing means (8), which are adapted to retrieve the object information, to generate an information message which includes the object information, and to send the information message to the information receiving address.

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A MESSAGE INFORMATION SYSTEMTechnical field

The present invention relates to a message information system and different devices, products, methods and systems to be used in a message information system.

Background

When a person is mobile, e.g. travelling on an airplane, and finds an article of interest in a magazine, that he wants to keep, he has but a few options. Either he tears out the article from the magazine or takes the whole magazine with him, or he writes down the name of the magazine so that he can order a copy when he is back at home. Neither of the options is satisfactory. If he tears out the article or takes the magazine with him, the next passenger will be unable to read the article. If he writes down the name of the magazine or tries to remember it, he will probably forget all about it and never order any copy. This problem is not only a problem of the person who reads the article and wants to keep it, but also a problem of the author of the article and the publisher of the magazine, who want to distribute the information in the article.

A similar problem may arise when a person sees an advertisement for a product. If he becomes interested and wants to obtain more information about the product, he then needs to remember the name of the manufacturer or its www-address until he has the opportunity to seek this further information. At the time when he actually has the possibility to obtain more information, he has, however, often lost interest or forgot about it. This is very unsatisfactory for the advertiser, who catches the attention of a potential buyer but fails to establish a relation with him.

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These are but examples. There are many more similar situations where an information seeker fails to obtain information and an information provider fails to establish contact with an interested party.

5    Summary of the invention

Thus, a first object of the present invention is to enable an information seeker to request information in a simple way.

10    A second object is to enable an information provider to distribute information in a simple way.

One or both of these objects are achieved by means of a message information system according to claim 1, a device according to claim 16, a method according to claim 33, a product according to claim 36, a computer-readable  
15    medium according to claim 41, and systems for distributing information according to claims 43 and 47.

More particularly, according to a first aspect, the invention provides a message information system, which comprises a plurality of objects, each one of which is  
20    associated with an identifier which identifies the object; first database means, which store object information relating to said objects such that the object information relating to each object is retrievable by means of its identifier; a plurality of user devices,  
25    each one of which comprises receiver means, which are adapted to receive the identifier of an object selected by the user of the user device, and sending means which are adapted to send a request message to a predetermined address and to include in said request message the  
30    identifier received from the object selected by the user as well as an indication of an information receiving address selected by the user of the user device; a request message receiver, which is adapted to receive the request messages from the user devices; and processing  
35    means, which, in response to the receipt by the request message receiver of one of the request messages, are adapted to retrieve from the first database means the

object information relating to the object identified by the identifier included in said one of the request messages, to generate an information message which includes the object information retrieved from the first  
5 database means, and to send the information message to the information receiving address selected by the user.

This message information system solves the problems accounted for above. When the traveller finds his article of interest or when he sees an advertisement for an  
10 attractive product he needs only to take out his user device and register the identifier of the article or advertisement. The user device sends the identifier to a predetermined address. As a result a copy of the article or information about the product in the advertisement is  
15 sent to an address selected by the traveller, e.g. to his electronic mailbox at home.

This message information system is advantageous both for those who seek information and for those who distribute information. The one who seeks information may  
20 collect information and have it sent to a selected address, which may be his own or that of another person or company. As will be evident from below he may moreover control the format and the extent of the information sent to him. The one who distributes information obtains on  
25 his part a possibility to evaluate the response to the distributed information. He may find that a specific advertisement among a plurality of advertisements for the same product catches much more attention than the others. He may then decide to concentrate on this advertisement  
30 in the future. He also gets an opportunity to start a dialogue with those who request further information on the product of the advertisements.

The message information system is also advantageous in that it allows an information seeker to obtain and an  
35 information provider to provide customised and specific information in an automatic manner.

The message information system is principally intended for providing information in relation to tangible objects.

The message information system is especially  
5 advantageous when the objects are physical documents, because it solves the problem of how to obtain a copy of a document when no copying machine is available. It also solves the problem of how to obtain an electronic version of a document when no scanner or other device which  
10 converts text and images on a physical document to electronic text and images is available. The user may moreover obtain a dynamic copy of the document, i.e. a copy of the document with further information added.

The objects may be of different types because the  
15 message information system is a general system which any information provider may use for distributing information. The system can comprise any number of objects. All objects of the same kind e.g. all documents with identical content, could of course be marked with  
20 one identifier.

The user devices are preferably portable so that the identifier of any object independently of its location can be registered by the user devices.

In a preferred embodiment the user devices comprise  
25 mobile phones. Today, many people always carry their mobile phone. If the user device is implemented in a mobile phone or as an add-on to a mobile phone, no additional devices need to be carried by the user in order to use this message information system.

30 The mobile phone may have switching means, e.g. a press button, for switching the phone between an information requesting mode, in which it operates to receive identifiers and send request messages, and a phone mode, in which it operates like an ordinary mobile  
35 phone.

The sending means are suitably adapted to generate the request message in electronic form, preferably in

digital form, so that it can be computer-processed when received by the request message receiver.

The sending means may send the request message to the predetermined address by means of cables, by wireless  
5 technique or by any other appropriate technique. The wireless technique is preferred because it makes the user device fit for use anywhere.

The sending means preferably comprise a data processor, which controls the generation of the request  
10 message, and a transmitter, which under the control of the processor transmits the request message.

The predetermined address to which the request message is sent is preferably an electronic address so that the request message can be computer-processed.  
15 Normally it is the address of a remote location.

The identifier is usually composed of a plurality of digits and/or letters. It can be used in coded form. It may be transferred to the user device directly from the object identified by the identifier or from a point close  
20 to the object. It may be received by the user device when the user device is at a limited distance from the object or when the user device is very close to or in contact with the object. It may be in almost any form and it may be received in almost any manner. Preferably the receiver  
25 means receives the identifiers "automatically", i.e. without the user having to manually input the individual digits, letters or the like. Instead the receiver means register electromagnetic waves which represent the identifiers.

30 In one embodiment, a transmitter, preferably a radio transmitter, e.g. a transponder or a RFID device (radio frequency identification device), is associated with the object and adapted to transmit the identifier in the form of electromagnetic waves. In this embodiment the receiver  
35 means of the user device are adapted to register the identifier in the form of electromagnetic waves when the user device is activated by the user. This embodiment has

the advantage that the object does not need to be within reach of the user. Thus, the user may e.g. request and obtain information about objects in a show-case in a museum or behind the glass window of a shop.

5       As an alternative the identifier may be in such a form that the user needs to bring the user device close to the object in order to register the identifier. The identifier may e.g. be optically read by a reader in the receiver means of the user device. It could be an  
10   alphanumeric code, which is applied on the object and which could be read by an optical scanner and decoded by an OCR program.

      In a preferred embodiment the identifiers are, however, in the form of bar-codes, which are applied on  
15   the objects or in their vicinity, and the receiver means of the user devices comprise a bar-code reader. The bar-code is advantageous in that it is space-saving and that the bar-code reader and the means for decoding the bar-codes are easy to realise and to miniaturise. The  
20   expression "bar-code" shall be broadly interpreted. It includes all kind of machine-readable codes that are based on lines, dots and other geometrical patterns.

      When having been received by the user device, the identifier is stored in the user device at least  
25   temporarily until it has been included in the request message.

      The identifier may preferably be supplemented by a distinctive feature, such as a specific colour, an added symbol, a frame, a specific signal or the like, for  
30   indicating to the user that the object which is associated with the identifier is part of this particular message information system. In a preferred system, the identifier is also supplemented with or includes a system identification, which is recognised by the user devices  
35   and/or the processing means of the system. In this latter case the user devices comprise means for detecting this system identification, e.g. appropriate software code, so



that sending of the request message is only enabled when the system identification has been detected by the detecting means. Alternatively, the sending means may be adapted to include the system identification in the request message, so that the request message receiver may decide whether the received request message comprises an identifier of the message information system or not.

The information receiving address is preferably an electronic address to which an electronic message is sent so that the message information system can be fully automated.

The information receiving address can be selected by the user when he registers as a user of the system and when he changes his user registration and/or when he uses his user device for requesting information.

Preferably the user device is arranged in such a way that the user may select between different information receiving addresses so that he may request that information of personal interest is sent to his home computer, whereas information relating to his work is sent to his office computer. For this purpose the user device may comprise selecting means, such as keys or software menus, that enable the user to select between at least two information receiving addresses. The information receiving addresses may be stored in the user device or elsewhere, e.g. in a database connected to the request message receiver. The user may of course also request that the information is sent to another person than himself.

The information receiving address selected by the user can also be the address of the user device from which the request message is sent. This could be the case when the information is needed immediately. However, in the preferred embodiment the information receiving address is associated with an information receiver other than the user device from which the request message is

sent, because the user device will often be a device with limited information receiving capability, if any.

The indication of the information receiving address must enable the system to determine where the information relating to the object identified by the identifier in the request message should be sent. The indication may be the information receiving address itself. It may also be a pointer to a memory location where the system may find the information receiving address. In a preferred embodiment the indication of the information receiving address comprises a unique user identity, e.g. the user's SIM card number when the user device is a mobile phone or a unique manufacturing number of the user device or the civic registration number of the user supplemented by a PIN code. In the preferred embodiment, the system further comprises second database means, which are adapted to store the unique user identities and for each unique user identity one or more information receiving addresses selected by the user.

The indication of the information receiving address may be permanently stored in the user device or input when the user device is used. The latter alternative allows several users to use the same device.

In order to increase the flexibility of the system, it may preferably also comprise user registration means, which are adapted, when activated by a user of the system, to register user information relating to said user. The processing means may be adapted to use said user information for the generation of the information message. The user may e.g. register in which language the information should be sent to him, the extent of the information to be sent, whether the information provider is allowed to contact him and to continue to send information. This enables the information provider to customise the information and the information seeker to receive tailored information, thus enabling user integrity control.

The message information system according to the invention may be expanded successively by the addition of new user devices and new objects. For this purpose, the message information system comprises a supply of unused  
5 identifiers, which are to be associated with objects and corresponding object information. These unused identifiers may be acquired by information providers who want to mark their objects with identifiers so that users of the system can obtain information relating to these  
10 objects. The objects may be marked with labels on which the identifiers are applied.

The information message which is sent to the information receiving address can include information in the form of text, images, video, speech or any other  
15 possible form of information which could be sent by an information message, preferably an e-mail. The information which is sent is determined by the information provider. It may be dynamic and different from user to user and from time to time.

20 In the message information system according to the invention all information relating to all the objects may be stored in the first database means and processed by the processing means. In this case, the request message receiver, the database means and the processing means may  
25 be operated by one system administrator. Preferably, there are, however many first database means, each of which stores information relating to one or more of the objects and each of which has its own processing means. In this case the request message receiver directs the  
30 request messages, sometimes in a refined form, to the appropriate first database means. Different combinations of these two alternatives are also conceivable. There may e.g. be central processing means at the request message receiver which retrieve the requested information from  
35 the relevant first database means among a plurality of first database means. This may have the advantage that

the information provider does not know to whom the information is sent.

It should also be realised that the request for information is sent without any contact having to be  
5 established with the information provider or the request message receiver. It is a "simplex" request.

In a second aspect, the invention relates to a device for requesting information regarding an object, said device comprising receiver means, which are adapted  
10 to receive an identifier identifying the object and sending means, which are adapted to send a request message to a predetermined address and to include in said message the identifier as well as an indication of a selected information receiving address to which an  
15 information message containing object information regarding the object is to be sent in response to the receipt of the request message at the predetermined address.

This device is applicable in a message information  
20 system according to the invention. The device may have any of the further features mentioned above in relation to the user devices. It has the advantages which appear from above.

The predetermined address may be an address to a  
25 central database storing information on all objects which are associated with identifiers of this kind. However, in the preferred embodiment it is not the direct address to the database where information relating to the object corresponding to the identifier in the request message is  
30 stored, but it is the address to a controller, e.g. the request message receiver of the message information system according to the invention, which directs the request message to the database of the information provider who stores the information corresponding to the  
35 identifier in the request message.

The predetermined address is preferably an  
electronic address, i.e. an address on which electronic

messages can be received. It could be an IP-address (an Internet Protocol address). It is suitably stored in the user device or programmed the first time the device is to be used. Alternatively it may be a supplement to the object identifier and found by the sending means. The predetermined address need not be explicitly known to the device. The device may e.g. send the request message to a mobile network operator, who directs it to the predetermined address.

10 In one embodiment of the device, the receiver means are detachable from the sending means so that the receiver means can be used on its own for registering one or more identifiers. When the receiver means are attached to the sending means, the identifiers can be sent to the  
15 predetermined address.

In another embodiment the receiver means are separate from the sending means and communicate via a short range radio link with the sending means. This embodiment has the advantage the receiver means may be  
20 very small so that they can be carried everywhere without problem. They may e.g. be implemented in a pen-shaped envelope. In this case the sending means need not be small, but can be implemented in e.g. an ordinary telephone, to which the identifiers are transferred via  
25 the short range radio link.

The device may have decoding means for decoding or converting the identifier signals received by the receiver from the object, which may be radio signals, optical signals or any other signals to a form which may  
30 be handled by the sending means. The decoding means may also be used for finding the identifier if the signals received by the receiving means comprise other information than the identifier. When the identifier is an alphanumerical identifier the decoding means may e.g.  
35 comprise an OCR program.

In a third aspect, the invention relates to a method for requesting information relating to a tangible object,

which is provided with an individual identifier,  
comprising the steps of transferring the identifier from  
said object to a message generating means; generating, in  
said message generating means, an electronic request  
5 message, and including in said electronic request message  
the identifier and an indication of a selected informa-  
tion receiving address; and sending the request message  
to a predetermined address with the purpose of obtaining,  
at the selected information receiving address, an infor-  
10 mation message containing the information relating to the  
object.

This method can be used in a message information  
system according to the invention or in other systems  
where information relating to a selected object can be  
15 obtained by sending an identifier of the object to a  
predetermined address. The above-described steps which  
are carried out by the message information system can be  
part of the method separately or in combination.

In a further aspect, the invention provides a  
20 product which is marked by a code of a predetermined  
format, which includes an identifier, which identifies  
the product and which is machine-readable such that  
information relating to the product can be obtained at a  
selected information receiving address by sending a  
25 request message which includes the identifier and an  
indication of the selected information receiving address  
to a predetermined address.

The advantage of marking a product by a code of this  
kind is that it enables a user to order e.g. a copy of a  
30 document or further information regarding the product,  
from a predetermined address in an automated way without  
having to write down the title of the document or without  
having to specify the product.

The code may be any kind of code that is suitable  
35 for marking an object. Preferably, it should be compact  
so that the marking could be made in a rather small area.

The code may include the predetermined address. This is advantageous when several parallel information systems are operating. The same device could then be used for ordering information in different information system. As  
5 an alternative, the code may be associated with a distinctive feature which is characteristic of the information system in which the code is applicable so that e.g. the device used for reading the code can determine where to send the request message.

10 The product may be marked by further codes, which enable the reader to order different information about the object. If e.g. the object is a document, a first code may be used for requesting a copy of the document and a second one for requesting a more detailed  
15 background to the content of the document.

The product may be used in a message information system according to the invention. It may have any of the feature described above in relation to the objects of the message information system.

20 In yet another aspect, the invention provides a computer-readable medium, on which is stored a computer program of instructions for a general purpose computer, comprising, in combination, means for receiving an identifier identifying an object, in relation to which  
25 information is obtainable on request, means for generating an electronic request message for requesting the information and for including in said request message the identifier as well as an indication of a selected information receiving address, which is supplied as an  
30 input to the computer program, and means for sending said request message to a predetermined address.

It is advantageous to generate the request message by means of a computer program, which could be installed in a special-purpose user device, which is used  
35 specifically for registering identifiers and sending request messages, or in a general purpose device, like an ordinary telephone or a computer. In the latter case, a

scanner or a bar-code reader or the like may be used for registering the identifier, which then is transferred to the telephone or computer, where the computer program receives the identifier and generates and sends the  
5 request message.

The computer program may be used in a message information system according to the invention and carry out any of the steps in the user device.

In yet another aspect, the invention provides a  
10 system for distributing information, comprising a database means for storing object information relating to a plurality of objects, each of which is associated with an identifier, and processing means, which, in response to the receipt of an electronic request message including  
15 the identifier of one of said plurality of objects as well as an indication of an selected information receiving address, are adapted to retrieve the object information relating to said one of the plurality of objects by means of the identifier included in said  
20 electronic request message and to generate an information message containing the retrieved object information and to send the information message to the selected information receiving address.

This system for distributing information is  
25 advantageous for information providers. The distribution can be handled automatically by the processing means in the form of computers, which retrieves the information specified in the request message and sends it to the selected information receiving address.

30 This system may comprise any of the features mentioned above in connection with the message information system of the invention, either separately or in combination. It may be used in the message information system according to the invention. It may be used as a  
35 centralised system, which stores information about all the objects, or as a system of a specific one of a plurality of information providers, which handles



information relating to the objects of that information provider.

In a further aspect the invention provides a system for distributing information, comprising database means, which are adapted to store a plurality of different identifiers identifying objects in relation to which object information is obtainable, and, for each identifier, a corresponding information storing address, which is useful for finding the object information, and furthermore to store a plurality of unique user identities, and for each unique user identity, at least one selected information receiving address, and further comprising processing means, which, in response to the receipt of an electronic request message including one identifier of said plurality of identifiers as well as one unique user identity of said plurality of unique user identities, are adapted to retrieve the information storage address corresponding to said one identifier and the selected information receiving address corresponding to said one unique user identity and to generate a secondary request message including the identifier and the selected information receiving address and to initiate the sending of an information message containing the requested information relating to the object to the selected information receiving address by sending the secondary request message to the information storage address.

This system for distributing information is advantageous in that the information relating to the objects need not be stored in a central database which is handled by the system administrator, but the information can be stored in different databases of the different information providers. The system only stores information about the users and addresses to the different information providers. Thus, the system does not need to know for what objects the information providers use their acquired identifiers. The system may nevertheless store

object information of information providers who lack the means to take care of the request messages. It may also generate and send the information messages, even though the information is stored in the database of an information provider.

Preferably, the processing means comprises a computer.

This system may also comprise any of the applicable features mentioned above in connection with the information system of the invention, either separately or in combination. It may be used in the information system above or in any similar system.

#### Brief description of the drawings

Further aspects and details of the invention will appear from the following description of preferred embodiments, reference being made to the accompanying drawings.

Fig. 1 is a schematic view of an embodiment of an information system according to the invention;

Fig. 2 is an embodiment of a product according to the invention;

Fig. 3 is a schematic view of an embodiment of a device for requesting information according to the invention.

Fig. 4 is a schematic view of an alternative embodiment of a device for requesting information.

#### Detailed description of preferred embodiments

Fig. 1 shows a message information system which comprises a plurality of objects 1, a plurality of user devices 2 to be used by users U of the system (for reasons of simplicity, only one user and one user device is shown in Fig. 1), a request message receiver 3, which is associated with a database 6 and processing means 7, a plurality of database means 4, each one of which stores information relating to the objects 1 and is associated with processing means 8, and two information receivers 5

with different information receiving addresses (IRA(1) and IRA(2)).

The objects shown in Fig. 1 are an article containing text and an image which is associated with an identifier ID1; a document containing only text, which is associated with an identifier ID2, a book, which is associated with an identifier ID3, a painting associated with an identifier ID4 and a historical building associated with an identifier ID5. These objects are only examples of objects which could be marked by identifiers. It should be understood that a real message information system would comprise many more objects.

The user device 2 is shown as a mobile telephone. It is provided with receiver means for receiving the identifiers from the objects 1 and sending means for sending request messages requesting information about the objects 1. The user device 2 is described more in detail in Fig. 3.

The system further comprises user registration means 9, which may be implemented as an Internet site and which in Fig. 1 are shown as associated with the database 6 to illustrate that the information registered by the user is sent to the database 6.

The user U is a registered user of the system. At the Internet site, he has registered the SIM-card number of his mobile phone as his unique user identity UUI, his name, and two information receiving addresses, viz. IRA(1), which is his e-mail address at his office, and IRA(2), which is his private e-mail address. He has also registered a user profile UP, which includes his preferred language which is English. All this information regarding user U is stored in the database 6 connected to the request message receiver 3 so that the information can be retrieved by means of the unique user identity UUI. It should be understood that the database 6 also stores the corresponding information of all the other users of the system.

Assume now that the user U is on holiday and visits a historical site. He gets interested in a temple. On the temple is mounted a small plate with a bar-code.

The bar-code includes the identifier ID5. It has  
5 been bought from the message information system administrator by the authority responsible for the historical site. When buying the right to use identifier ID5, the authority informed the message information system administrator of the address B of its database 4,  
10 which would store the information about the temple. This address B is stored in the database 6 of the request message receiver 3 so that it can be retrieved by means of the identifier ID5. It should be understood that the database 6 also stores the corresponding address  
15 information of the objects identified by the identifiers ID1-4 and of all other objects included in the system.

The user U now brings out his user device 2, turns it on and moves it over the bar-code on the temple. As a result the identifier ID5 is received by the receiver  
20 means. The sending means of the user device then generates a request message including the identifier ID5 of the selected object and the unique user identity UUI. Since the user has had the opportunity to register more than one information receiving address, he is prompted by  
25 the user device 2 to select which of these addresses the information should be sent to. He selects his home address which is the first address and which is indicated by the digit "1" added to the UUI.

This request message or request code UUI1+ID5 is  
30 sent by the mobile phone 2 to its mobile network operator 10, which forwards it to the request message receiver 3.

The processing means 7, which are implemented as a computer connected to the receiver, uses the unique user identity UUI2 for retrieving the information receiving  
35 address IRA(1) to which the information regarding the temple is to be sent and for retrieving the user profile UP. Furthermore it uses the identifier ID5 to retrieve

the address B of the database 4 which stores the information regarding the temple. The processing means 7 then sends a secondary request message to address B including the information receiving address IRA(1), the identifier ID5 and the user profile UP.

The processing means 8, which are implemented as a computer connected to the database 4, receive this secondary request message IRA(1)+ID5+UP and use the identifier ID5 for finding the requested information INFO regarding the temple and the user profile UP for customising the information. This time the information consists of a several pages of text in English with accompanying images. Next time a user requests information about the temple using the same identifier, the information provider may however have added new text to the information. The processing means 8 generate an electronic information message and include the information INFO about the temple in this message. Finally the information message is sent via Internet to the selected address IRA1. When the user returns from his holiday, he finds the requested information in his electronic mail box.

Fig. 2 shows another example of an object which could be used in the information message system of Fig 1. The object is a magazine, which on page 32 comprises an article concerning patents. In the lowest right-hand corner, the article is provided with a bar-code 20. The bar-code is supplemented with a distinctive feature in the form of a flag 21. The flag 21 indicates that this is a bar-code by means of which a copy of the article can be ordered. The bar-code 20 and the flag 21 is printed at the same time as the article. The format of the bar-code 20 is governed by a standard. The first bars of the bar-code is a system identification which is common for all the barcodes of the system. The remaining bars represent an identifier which identifies the article.

Fig. 3 shows the user device 2 of Fig. 1 more in detail. The user device is an ordinary mobile phone with an antenna 31, a keypad 32, a microphone 33, a loudspeaker 34, a display 35, a transmitter part for transmitting calls (not shown) and a receiver part for receiving calls (not shown).

The phone has however been provided with additional features in order to enable a user to request information. First the phone has been provided by receiver means in the form of a bar-code reader 36. More particularly, an optical reader head 37 of the bar-code reader 36 is placed in the antenna of the mobile phone. The optical reader head is connected to a controller 38 and a memory 39, which also are parts of the bar-code reader. The controller 38 converts the bar-codes read by the optical reader head 36 to digital form and stores them in the memory 39. The memory 39 moreover stores a predetermined address to which the request message is to be sent. The controller 38 and the memory 39 may be implemented in the ordinary parts of the mobile phone or may be supplemental parts.

Second, the phone has been provided with sending means, which are adapted to generate and send a request message. The sending means comprise a data processor 40 with a suitable software program and a transmitter 41. The transmitter is preferably the same transmitter as is used by the phone when it is used for normal phone calls. The data processor can also be a processor which already exists in the phone. The software must of course be added.

Finally, the mobile phone 30 has a key 42 for switching the phone between a bar-code-reading mode and an ordinary telephone mode. When the key 42 is pressed by the user, a signal is sent to the data processor 40, which triggers the phone to switch the mode.

When the mode has been switched, the user moves the optical reader head over a bar-code, e.g. the bar-code 20

of Fig. 2. As a result, the bar-code is stored in the memory 39. When at least one bar-code has been read, the program of the processor 40 prompts the user to select, on a menu displayed on the display 35, the information receiving address to which the information is to be sent. When the selection of an address has been made the processor 40 prompts the user to press the key 42 anew, to indicate that a request message is to be sent. The processor 40 then retrieves the bar-code stored in the memory and the number of the SIM-card of the mobile phone. The bar-code, the indication of the information receiving address selected by the user and the SIM-card number form the request message. Finally, the processor 40 controls the phone to send the request message to the predetermined address stored in the memory 39. The SMS channel of the phone may be used to send the request message.

In this example, the predetermined address is the number of the request message receiver 3 of Fig. 1, which upon receipt of the message processes it as described in connection with Fig. 1.

In an alternative embodiment, the receiving means and the sending means are implemented as an add-on to the mobile phone. The add-on could be connected to the system bus of the mobile phone.

Fig. 4 shows an alternative embodiment of the user device. In this embodiment, the device consists of two separate parts, a bar-code reader 50 in the form of a pen and sending means 51 implemented in an ordinary fixed telephone.

The bar-code reader 50 has an optical reading head 52, which is placed in the tip of the pen, a controller 53, which converts the bar-codes to digital form, and a memory 54, which stores the bar-codes. It further has an on/off button 55 for turning it on/off, a short range radio transmitter 56 for transmitting the recorded bar-codes, which are stored in the memory 54 to the telephone

51, and a send button 57 for controlling the transmission to the telephone 51.

The telephone 51 has, apart from its ordinary components, an information requesting part 58, which  
5 includes a short range radio receiver 59 for receiving the bar-codes from the bar-code reader pen, a memory 60, which stores the received bar-codes and a unique user identity, which may be input to the information  
10 requesting part or received from the bar-code reading pen, a data processor 61 with appropriate software, which generates a request message, which includes one or more bar-codes read by the bar-code reading pen, the unique user identity, and if required an indication of to which  
15 of the information receiving addresses selected by the user the information is to be sent. The selection could be made by means of keys on the bar-code reading pen, which in this case may comprise a small display. When the information requesting part 58 receives one or more bar-codes from the bar-code reader pen 51, the processor 61  
20 generates the request message in such a form that it could be sent by the ordinary components in the telephone and it triggers the telephone to send the request message to a predetermined address, which could be the address of a second computer.

25 When the user finds the article of Fig. 2 of which he wants to have a copy, he turns on the bar-code reader 50 and moves it over the bar-code 20. The bar-code is stored by the controller 53 in the memory 54. The user then turns off the bar-code reader. When the user returns  
30 home he turns on the bar-code reader 50 and puts it close to the telephone 51. He presses the send button 57, whereupon the bar-codes stored in the memory 54 is transferred to the information requesting part 58 of the telephone. The processor 61 prompts the user to indicate  
35 to which address the information is going to be sent, if this address has not already been indicated by means of the pen. It includes this indication in the request



message together with the bar-code. The request message is then sent by the telephone to a predetermined address, which is pre-programmed in the information requesting part.

- 5        In yet another embodiment the sending device above could be an ordinary general purpose computer, provided with a short range radio receiver and appropriate software for generating the request message, including the bar-code identifying the product in relation to which
- 10    the user wants information and the indication of the selected information receiving address, and for sending the message via Internet to a predetermined address.

The short range radio link may be replaced by a IR-link or any other appropriate link.

15

## CLAIMS

1. A message information system, which comprises  
-a plurality of objects (1), each one of which is  
5 associated with an identifier which identifies the  
object;

-first database means (4), which store object  
information relating to said objects such that the object  
information relating to each object is retrievable by  
10 means of its identifier;

-a plurality of user devices (2), each one of which  
comprises receiver means, which are adapted to receive  
the identifier of an object selected by the user of the  
user device, and sending means which are adapted to send  
15 a request message to a predetermined address and to  
include in said request message the identifier received  
from the object selected by the user as well as an  
indication of an information receiving address selected  
by the user of the user device;

20 -a request message receiver (3), which is adapted to  
receive the request messages from the user devices; and

- processing means (8), which, in response to the  
receipt by the request message receiver of one of the  
request messages, are adapted to retrieve from the first  
25 database means (4) the object information relating to the  
object identified by the identifier included in said one  
of the request messages, to generate an information  
message which includes the object information retrieved  
from the first database means (4), and to send the  
30 information message to the information receiving address  
selected by the user.

2. The message information system according to claim  
1, wherein the objects (1) are tangible objects.

3. The message information system according to  
35 claim 2, wherein the objects (1) are physical documents.

4. The message information system according to any one of the preceding claims, wherein the user devices (2) are portable.

5. The message information system according to claim 4, wherein the user devices (2) comprise mobile phones.

6. The message information system according to any one of the preceding claims, wherein the sending means are adapted to generate the request message in electronic form, preferably in digital form.

7. The message information system according to any one of the preceding claims, wherein each object (1) is associated with a transmitter, preferably a radio transmitter or a transponder, which is adapted to transmit the identifier in the form of electromagnetic waves.

8. The message information system according to any one of claims 1-6, wherein the identifiers are in the form of bar-codes, which are applied on the objects, and wherein the receiver means comprise a bar-code reader.

9. The message information system according to any one of the preceding claims, wherein the identifiers are supplemented with a system identification, and wherein said each one of the user devices (2) comprises detecting means, which are adapted to detect the system identification.

10. The message information system according to any one of the preceding claims, wherein said information message is an electronic message.

11. The message information system according to any one of the preceding claims, wherein said each one of the user devices (2) comprises selecting means, which enable the user to select between at least two information receiving addresses.

12. The message information system according to any one of the preceding claims, wherein the information receiving address included in said one of the request

message is associated with an information receiver other than the user device from which said one of the request message is sent.

13. The message information system according to any  
5 one of the preceding claims, wherein the indication of the information receiving address included in the request message by said each one of the user devices (2) comprises a unique user identity, and further comprising  
10 second database means (6), which are adapted to store the unique user identities and for each unique user identity the information receiving address selected by the user.

14. The message information system according to any one of the preceding claims, further comprising user  
15 registration means, which are adapted, when activated by a user of the system, to register user information relating to said user, and wherein the processing means (8) are adapted to use said user information for the generation of the information message.

15. The message information system according to any  
20 one of the preceding claims, further comprising a supply of unused identifiers, which are to be associated with objects and corresponding object information.

16. A device for requesting information regarding an object (1), said device comprising receiver means, which  
25 are adapted to receive an identifier identifying the object and sending means, which are adapted to send a request message to a predetermined address and to include in said message the identifier as well as an indication of a selected information receiving address to which an  
30 information message containing object information regarding the object is to be sent in response to the receipt of the request message at the predetermined address.

17. The device according to claim 16, wherein the  
35 device is portable.

18. The device according to claim 16 or 17, wherein the sending means are adapted to send the request message as a wireless message.

19. The device according to claim 18, wherein the  
5 device comprises a mobile phone.

20. The device according to claim 19, further comprising switching means for switching the mobile phone between an information requesting mode and a phone mode.

21. The device according to any one of claims 16-20,  
10 further comprising electronic generating means for generating the request message in electronic form, preferably in digital form.

22. The device according to any one of claims 16-21, wherein the receiver means comprises a reader, which is  
15 adapted to read the identifier from the object.

23. The device according to claim 22, wherein the identifier is bar-coded and the reader is a bar-code reader.

24. The device according to any one of claims 16-23,  
20 wherein the receiver means are detachable from the sending means.

25. The device according to any one of claims 16-23, wherein the receiver means are separate from the sending means and communicate via a short range radio link with  
25 the sending means.

26. The device according to any one of claims 16-25, further comprising system detecting means, which are adapted to detect a system identification associated with the identifier.

27. The device according to claim 26, wherein the  
30 system detecting means are adapted to enable the sending means to send the request message only if the distinctive feature is detected.

28. The device according to claim 26, wherein the  
35 sending means are adapted to include the system identification in the request message.

29. A device according to any one of claims 16-28, wherein the object (1) is a document.

30. The device according to any one of claims 16-29, wherein the predetermined address is stored in the  
5 device.

31. The device according to any one of claims 16-30, further comprising selecting means, which enable a user to select between at least two different information receiving addresses.

10 32. The device according to any one of claims 16-31, wherein the information receiving address included in said request message is associated with an information receiver other than the device.

33. A method for requesting information relating to  
15 a tangible object, which is provided with an individual identifier, comprising the steps of

transferring the identifier from said object to a message generating means;

generating, in said message generating means, an  
20 electronic request message and including in said electronic request message the identifier and an indication of a selected information receiving address; and

sending the request message to a predetermined  
25 address with the purpose of obtaining, at the selected information receiving address, an information message containing the information relating to the object.

34. The method of claim 33, wherein the step of transferring comprises the substep of prompting the  
30 message generating means to receive the identifier.

35. The method according to claim 33, wherein the step of transferring comprises the substep of reading the identifier by means of a reader.

36. A product which is marked by a code of a  
35 predetermined format, which includes an identifier, which identifies the product and which is machine-readable such that information relating to the product can be obtained

at a selected information receiving address by sending a request message which includes the identifier and an indication of the selected information receiving address to a predetermined address.

5       37. The product according to claim 36, wherein the code includes the predetermined address.

38. The product according to claim 36 or 37, wherein the code is associated with a distinctive feature, which is characteristic of a message information system in  
10       which the code is applicable.

39. The product according to claim 36, wherein the code is a bar-code.

40. The product according to claim 36, wherein the product is a document.

15       41. A computer-readable medium, on which is stored a computer program of instructions for a general purpose computer, comprising, in combination, means for receiving an identifier identifying an object, in relation to which information is obtainable on request, means for  
20       generating a electronic request message for requesting the information and for including in said request message the identifier as well as an indication of a selected information receiving address, which is supplied as an input to the computer program, and means for sending said  
25       request message to a predetermined address.

42. The computer-readable medium according to claim 41, further comprising means for converting an identifier received in a first form to a second numerical form.

30       43. A system for distributing information, comprising a database means (4) for storing object information relating to a plurality of objects (1), each of which is associated with an identifier, and processing means (8), which, in response to the receipt of an electronic request message including the identifier of one of said  
35       plurality of objects (1) as well as an indication of an selected information receiving address, are adapted to retrieve the object information relating to said one of

the plurality of objects by means of the identifier included in said electronic request message and to generate an information message containing the retrieved object information and to send the information message to  
5 the selected information receiving address.

44. The system according to claim 43, further comprising user registration means which are adapted to register a unique user identity and at least one selected information receiving address of each user.

10 45. The system according to claim 43 or 44, wherein the indication of the selected information receiving address in the request message comprises the unique user identity and wherein the processing means are adapted to use the unique user identity for retrieving the selected  
15 information receiving address.

46. The system according to any one of claims 43-45, further comprising user registration means, which are adapted to register a unique user identity and at least two selected information receiving addresses of each  
20 user, wherein the indication of the selected information receiving address in the request message consists of the unique user identity and an indication of a selected one of said at least two information receiving addresses and wherein the processing means are adapted to use the  
25 unique user identity and the indication of the selected one of said at least two information receiving addresses for retrieving the selected information receiving address to which the information message is to be sent.

47. A system for distributing information, comprising database means (6), which are adapted to store a  
30 plurality of different identifiers identifying objects in relation to which object information is obtainable, and, for each identifier, a corresponding information storing address, which is useful for finding the object  
35 information, and furthermore to store a plurality of unique user identities, and for each unique user identity, at least one selected information receiving

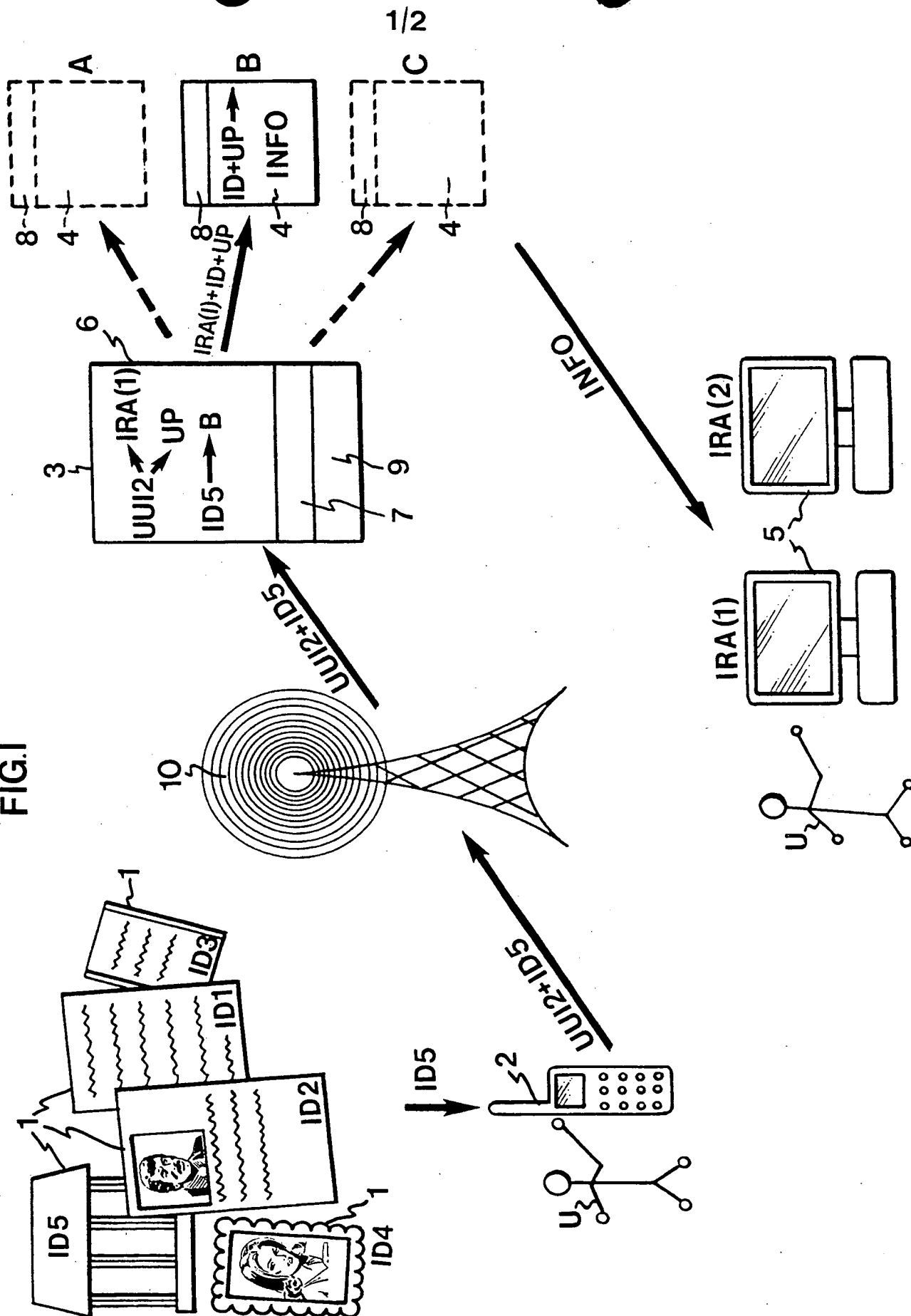


address, and further comprising processing means (7),  
which, in response to the receipt of an electronic  
request message including one identifier of said  
plurality of identifiers as well as one unique user  
5 identity of said plurality of unique user identities, are  
adapted to retrieve the information storage address  
corresponding to said one identifier and the selected  
information receiving address corresponding to said one  
unique user identity and to generate a secondary request  
10 message including the identifier and the selected  
information receiving address and to initiate the sending  
of an information message containing the requested  
information relating to the object to the selected  
information receiving address by sending the secondary  
15 request message to the information storage address.

48. The system according to claim 47, further  
comprising user registration means, which are adapted to  
register user information of each user such that said  
user information is retrievable by means of the  
20 corresponding unique user identity, and wherein the  
processing means are adapted to retrieve the user  
information by means of the unique user identity and to  
include said user information in the secondary request  
message.

25

FIG.1



2/2

FIG. 2

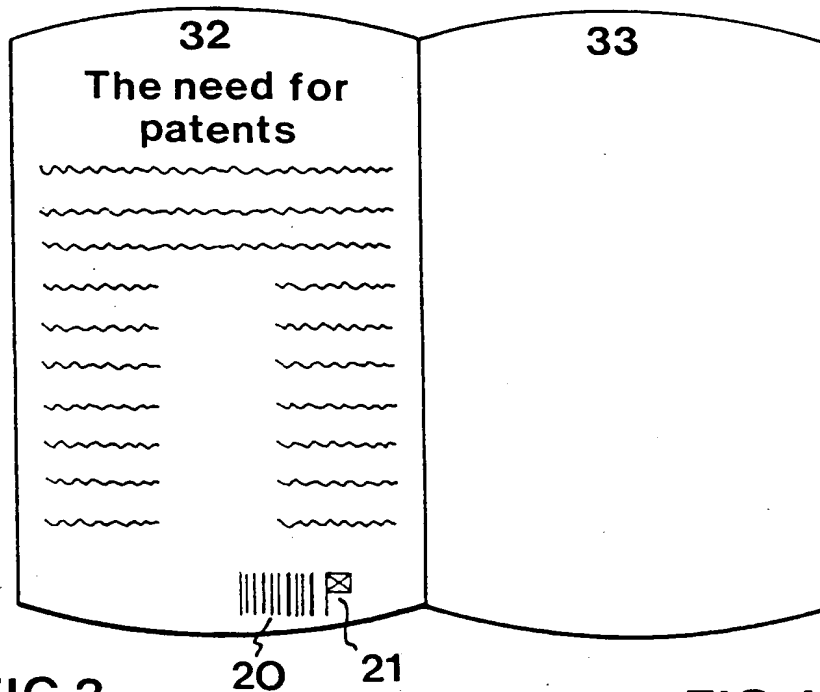


FIG. 3

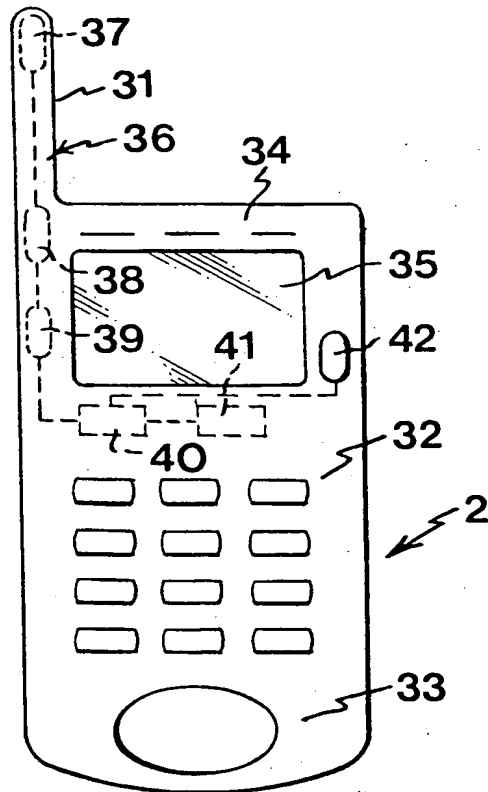
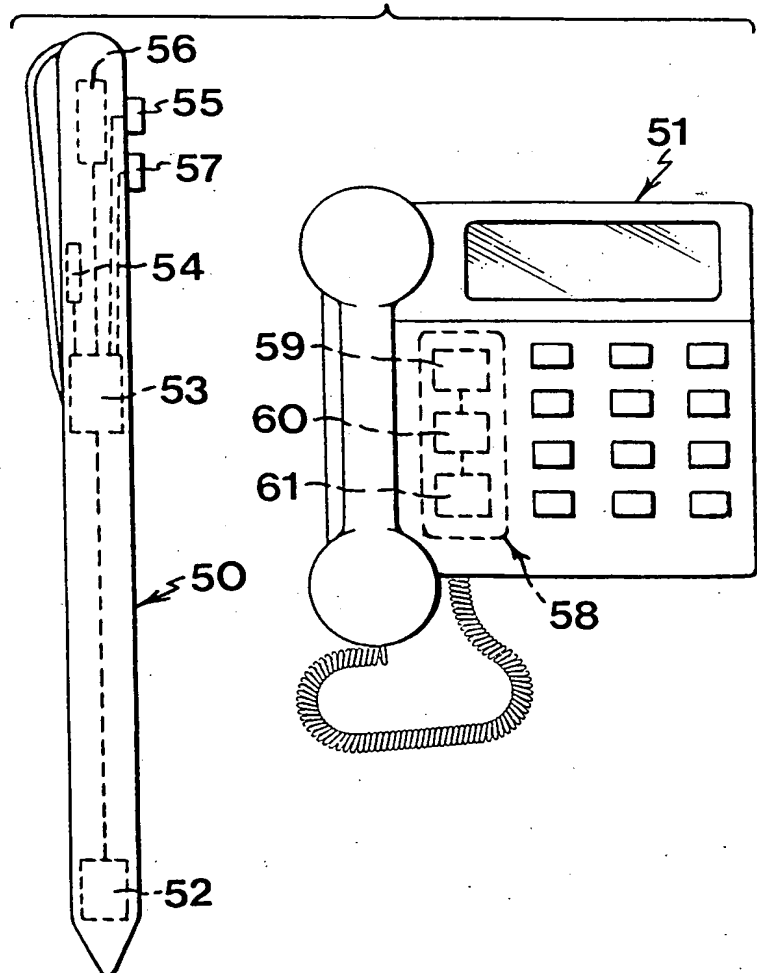


FIG. 4



SUBSTITUTE SHEET (RULE 26)

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/01226

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
<b>IPC6: G06F 17/30, G06F 17/60</b> According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
<b>IPC6: G06F</b>		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
<b>SE,DK,FI,NO classes as above</b>		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>WPI</b>		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0645728 A2 (SYMBOL TECHNOLOGIES, INC.), 29 March 1995 (29.03.95), column 3, line 24 - line 35; column 11, line 3 - line 18; column 11, line 44 - column 12, line 16, figures 6, 7,8, column 24, line 10 - line 39 --	1-29,31-40, 43-48
Y	WO 9701137 A1 (SOLAR COMMUNICATIONS, INC.), 9 January 1997 (09.01.97), page 5, line 12 - line 25; page 13, line 11 - line 25, figures 1,2,4,7 --	1-3
Y	WO 9307566 A1 (MOTOROLA, INC.), 15 April 1993 (15.04.93), page 3, line 30 - page 5, line 20, figure 1 --	11-14,44-48
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
8 January 1999		12 -01- 1999
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86		Authorized officer  Jan Silfverling Telephone No. +46 8 782 25 00

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/01226

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0501701 A2 (INTERNATIONAL BUSINESS MACHINES CORPORATION), 2 Sept 1992 (02.09.92), page 2, line 31 - line 41; page 3, line 3 - page 5, line 6; page 8, line 25 - line 38, figure 1, page 17, line 4 - line 25  --	1-9,15,26-27
E,X	WO 9828900 A1 (GENERALDIREKTION PTT), 2 July 1998 (02.07.98), page 1, line 12 - line 24; page 12, line 13 - line 22; page 13, line 19 - page 14, line 9, figure 1  -----	1-7,10,14, 16-21,26-29, 32-37,40, 43-48

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/01226

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 41-42  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
a computer-readable medium can not be characterized by the information stored on it
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

01/12/98

International application No.

PCT/SE 98/01226

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0645728 A2	29/03/95	CA 2130319 A JP 7154456 A	26/02/95 16/06/95
WO 9701137 A1	09/01/97	AU 6388496 A EP 0832453 A	22/01/97 01/04/98
WO 9307566 A1	15/04/93	DE 69225214 D,T EP 0560965 A,B JP 6503694 T US 5825865 A	08/10/98 22/09/93 21/04/94 20/10/98
EP 0501701 A2	02/09/92	JP 4310188 A US 5649185 A	02/11/92 15/07/97
WO 9828900 A1	02/07/98	AU 1137197 A	17/07/98

Form PCT/ISA:210 (patent family annex) (July 1992)

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